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(54) Sliding door assembly

Schiebetür-Anordnung

Système de porte coulissante

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(56) References cited:
FR-A- 2 601 408 **FR-A- 2 641 569**
FR-A- 2 707 328 **US-A- 5 349 783**

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Description

[0001] The present invention relates to sliding door assemblies comprising roller assemblies for sliding doors of the type that slide along tracks, and, more particularly, to an anti-jump member engageable with the track to prevent the roller from derailing.

[0002] Roller assemblies for sliding doors that move along a track are known in the art. Advantageously, such a roller assembly may comprise a bracket for attached to the door, a roller mounting member slidably seated in the bracket and a roller mounted on the roller mounting member for travel along the track. An improved roller assembly of this type is disclosed in pending United States Patent Application Serial No. 09/583,281, assigned to ourselves.

[0003] A problem common to all such roller assemblies is derailing, which may occur if the door is struck or bumped, or if it encounters an obstruction on the track, or if force is not applied parallel to the track when the door is being opened or closed. The problem is exacerbated if the door is installed in a doorway which varies in height from one end to end or is not plumb.

[0004] Many sliding doors are intended for installation by the user, the so called "do-it-yourself" market. Products in this market must be simple to install, using only commonly available tools.

[0005] Accordingly, it is an object of the present invention to provide a novel roller assembly for a tracked sliding door which resists derailing.

[0006] It is also an object to provide such a roller assembly which is specifically adapted for user installation.

[0007] Another object is to provide such an assembly which is quiet in operation and inexpensive to produce.

SUMMARY OF THE INVENTION

[0008] The present invention provides a sliding door assembly as claimed in claim 1, to which reference is directed.

[0009] The invention will be described by way of example with reference to the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010]

Figure 1 is a perspective view of the roller mounting member, roller and anti-jump member of a roller assembly of a door assembly embodying the present invention;

Figure 2 is an exploded perspective view of the structure shown in Figure 1;

Figure 3 is a front elevational view of the anti-jump member shown in Figures 1 and 2;

Figure 4 is a side elevational view of the anti-jump member of figure 3;

Figure 5 is a front elevational view of the roller assembly attached to a door sliding in a track;

Figure 6 is a sectional view along the line 6-6 of Figure 5;

Figure 7 is a sectional view along the line 7-7 of Figure 5;

Figure 8 is an enlarged fragmentary view of the roller mounting member of Figures 1 and 2;

Figures 9-12 are a series of enlarged fragmentary views of the roller mounting member shown in Figure 8 with an anti-jump member attached, showing the sequence of operating steps;

Figure 13 is a perspective view of the bracket of the roller assembly; and

Figure 14 is a plan view of an alternative roller structure.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0011] Referring to the drawings, therein illustrated is a roller assembly of a sliding door assembly embodying the present invention. The roller assembly is generally designated by the numeral 1. Roller assembly 1 comprises a bracket 3, a roller mounting member 5 slidably seated in the bracket 3, a roller 7 rotatably mounted on the roller mounting member 5, and an anti-jump member 9 carried by the roller mounting member 5.

[0012] The bracket 3 has a generally planar body portion 24 having an inner surface 17 upon which the roller mounting member 5 is slidable. Along the sides thereof are side walls 26 each having outwardly extending flanges 38 and 40 at the ends thereof and an inwardly extending lip 28 centrally thereof. The side walls 26 and the body portion 24 define a channel in which roller mounting member 5 is seated, and the lip 28 retains the roller mounting member 5 therein.

[0013] An end wall 30 extends perpendicularly to the upper end of the body portion 24 transversely across the width thereof between the side walls 26 to close the channel at its upper end. A flange 32 extends perpendicularly to the other or lower end of the bracket body 24 at its other end and in a direction opposite to the side walls 26 and end walls 30. Along the free end of the flange 32 is a pair of holding tabs 34 which extend parallel to the plane of the body portion 24 and seat in the slots 12 in the bottom wall of the door rail 8. While illustrated as part of the bracket 3, it should be understood that the holding tabs 34 on the flange 32 may be omitted, or removed or flattened, and the flange 32 may be connected to the rail 8 by screws passing through openings 31 in the flange 32 when the rail 8 is not adapted to receive the tabs 34, such as when the frame is formed from a hardwood greater than the thickness for which its channel was intended.

[0014] The upper side flanges 38 on the bracket 3 and the lower side flanges 40 have generally planar body portions 42 and 44 extending generally parallel to the

plane of the body portion 24. The planar body portion 42 of the flange 38 is formed with a generally G-shaped tab 50 which has a free end providing an intumed snap tip 51. The tabs 50 are generally coplanar with the planar portion 42 except for the snap tip 51 which is angled towards the plane of the body portion 24. This allows the tip 51 to pass into the slot 10 formed in the side of the door stile 6 and thereafter snap in place behind the interior surface of its side wall 13. An upwardly offset tab 52 on the flange 38 extends in a plane generally parallel to the plane of the bracket body portion 24 and is spaced above the plane of the planar portion 42. This co-operates with the G-shaped tab 50 and bears against the outer surface of the stile 6 to capture it therebetween.

[0015] Each G-shaped tab 50 is provided with weakening section 56 which permits the tab 50 to be broken off in the event that the stile 6 is cut adjacent its end so that the slot 10 is no longer present or aligned therewith. In this circumstance, the offset tab 52 is connected to the stile 6 by a screw (not shown) which extends through the aperture 54 in the tab 52. The weakening section 56 has an L-shaped slot 58 and a deformed region surrounding the slot 58 which allows the tab 50 to be broken off when a tool, such as a screwdriver tip, is inserted therein and moved back to flex the tab 50 until it breaks off.

[0016] Each flange 42 also includes a notch 60 which receives the upper end wall 30 therewithin. Thus, the flange 42 has a portion 62 which extends behind the end wall 30 so as to abut the outer face of the end wall 30 and provide it with enhanced load bearing capacity. This is important because the weight of the door bears on the end wall 30 by forces imparted to it through the mounting member 86. The juncture of the body portion 24 and end wall 30 may be further stiffened by providing spot welds or staking gussets 64 therealong.

[0017] The lower end flange 40 secures the lower end of the bracket 3 to the open end of the stile 6. The lower end flange 40 includes at its lower end an arm portion 65 which extends outwardly of and perpendicularly to the planar body portion 40 and provides a tab 66 which extends upwardly so as to engage the inner surface of the stile 6. At its upper end, the flange 40 has an upwardly offset, outwardly extending tab 53 which extends parallel to the body portion 24 along the outer surface of the stile 6. The tab 66 works in conjunction with the offset tab 53 to seat the wall of the stile 6 therebetween.

[0018] The roller mounting member 5 is co-operatively dimensioned to slidably seat in the channel of the bracket 3 and has a generally rectangular configuration with its upper end portion seated within the channel of the bracket 3 and its lower end portion extending below the bracket 3. The roller mounting member 5 has spaced side walls 76 and 78 which extend generally parallel to the plane of the body portion 24 of the bracket 3 and an end wall 82 at its upper end.

[0019] The end wall 82 of the roller mounting member 5 is provided with an aperture 84 which threadably seats

a machine screw 86 having a head 88 which abuts against the lower surface of the end wall 30 of the bracket 3 to transfer the door load to it. The end wall 82 is provided with reinforcements 29 adjacent the aperture 84. The screw 86 enables adjustment of the position of roller mounting member 5 and thereby the door height above the supporting surface and reduces play in the door by allowing the door to be moved upwardly snugly against the upper track (not shown). The end wall 30 has an access aperture 90 therein which permits a screwdriver blade to be inserted through the end wall 30 of the bracket 3 to engage the head 88 of the screw 86 in order to make such adjustments.

[0020] As best seen in Figures 1 and 2, the roller 7 is rotatably mounted adjacent the lower end of the mounting member 5 on an integral shaft or axle 92 which extends through aligned apertures in side walls 76 and 78. As seen in Figure 2, each of the apertures 72 includes an enlarged guide portion which allows the hub of the roller 7 to be snapped into place in the mounting member 5. Alternatively, a ball bearing 110 may be utilised between the roller hub 112 and the roller tire 114 as illustrated in Figure 14.

[0021] As clearly shown in the drawings, and particularly figure 6, the roller 7 comprises a wheel 7' integrally molded with the axle 92. The wheel 7' comprises a circular central portion 7a, forming a rim, flanked by two coaxial, circular, frusto-conical, side portions 7b, 7c. The side portions 7b, 7c are of smaller diameter than the central rim portion 7a and each side portion 7b, 7c tapers axially outwardly, that is, in a direction away from the central rim portion 7a. As shown best in Figures 6 and 7, the track 100, resting on a base 202, is formed with two curved shoulders 204, 206 on either side of a curved central cavity 208. The two shoulders 204, 206 are situated at the top of the track 100, above the level of the base 202. The roller 7 runs on the track 100 by virtue of the side portions 7b, 7c of the roller 7 running on the shoulders 204, 206 respectively. The open top of the central cavity 208 of the track 100 forms a slot 210, level with the two shoulders 204, 206 and the cavity 208 widens out below the two, overhanging, shoulders 204, 206. The central portion 7a of the roller 7 extends through the slot 210 and below the level of the two shoulders 204, 206 into the cavity 208.

[0022] The roller mounting member 5 is limited in its movement outwardly of the bracket 3 by a detent or ratchet 98 which extends inwardly from the body portion 24 and seats in an elongated slot 96 in the sidewall 78 of the roller mounting member 5. The detent 98 is resiliently deflectable to be deflected into the plane of the bracket body portion 24 when the upper end of the roller mounting member 5 is inserted into the bracket 3 until it springs into the slot 96 upon continued movement of the mounting member 5 toward the upper end flange 30 of the bracket 3.

[0023] As best seen in Figures 3 and 4, the anti-jump member 9 comprises a handle 91, an elongated shaft

93 extending downwardly therefrom and terminating at its bottom end in an enlarged track engagement portion 95. The anti-jump member 9 is rotatably and translatably carried by clips 87 on the side of the roller mounting member 5, adjacent the rim of the roller 7, with the shaft 93 lying in the roller median plane. As illustrated in Figures 9-12, the anti-jump member 9 is first rotated from the raised position shown in Figure 9 to the still raised position of Figure 10, then displaced longitudinally downwards to the lowered but inoperative position of Figure 11, and then rotated again to the operative position of Figure 12, wherein the track engagement portion 95 can engage the track 100, as best seen in Figure 7.

[0024] In the lowered, operative, position of the anti-jump member 9, shown in Figures 7 and 12, the shoulders 204, 206 of the track 100 overhang parts of the track engagement portion 95 as shown, so that the track engagement portion 95 cannot be withdrawn from the track 100. When the, still lowered, anti-jump member is rotated to the inoperative position shown in Figures 10 and 11, the shoulders 204, 206 of the track 100 no longer overhang any part of the track engagement portion 95, so that the track engagement portion 95 can be displaced longitudinally, that is, vertically, to be inserted into or to withdraw from the cavity 208, through the slot 210, as desired.

[0025] A pair of recessed, flattened portions 94 formed in the shaft 93 of the anti-jump member 9 are selectively engageable with a locking member 89 disposed between the clips 87 to releasably retain the anti-jump member 9 in the retracted position or the operative position as desired. It will be appreciated that the roller assembly 1 can move freely along the tracks with the anti-jump member 9 in either the lowered position or the raised position.

[0026] In assembling the connector to the panel 2 and frame elements 6, 8, the roller mounting member 5, with the roller 7 mounted therein, may be initially inserted into the channel of the bracket 3 until the detent 98 snaps into the slot 96 of the mounting member 5. Thereafter, depending on whether the connector is to be used in a right or left corner of the panel, the side flanges 38 and 40 disposed along the corresponding right or left lateral side of the bracket 3 are used in the connection. In the illustrated example of Figure 5, the right corner of the door is being connected and those along the right side of the bracket 3 are used. The tab 66 is first engaged in the open end of the stile 6 and the tabs 34 of the lower end flange 32 are inserted into the slots 12. Thereafter, the bracket 3 is pivoted toward the slot 10 in the stile 6 until the G-shaped tab 50 is inserted through the slot 10 and the tip 51 snaps against the inner surface of the stile 6. Concurrently, the tabs 52, 53 seat against the outer surface of the stile 6 and the body portion 24 seats against the outer surface of the rail 8 to engage the stile 6 and rail 8 firmly with the bracket 3. The stiles and rails are conventionally fabricated from steel or aluminium to provide a rigid frame while providing some degree of

flexure to grip the panel securely. The bracket is conveniently stamped from sheet metal of about 0.030-0.050 inch thickness. The roller mounting member, roller and anti-jump member are conveniently molded from synthetic resin such as nylon, polypropylene and acetal.

Claims

1. A sliding door assembly, comprising a sliding door, a track (100) underneath the sliding door, and a roller assembly (1), said roller assembly (1) comprising:-

(a) a bracket (3) attached to the door at or near the bottom of the door, said bracket (3) having a generally planar body portion (24);

(b) a roller mounting member (5) slidably seated in said bracket (3), said roller mounting member (5) having first and second side walls (76, 78) extending generally parallel to the plane of said bracket body portion (24);

(c) a roller (7) rotatably mounted on said roller mounting member (5) for travel along the track (100), said roller (7) being disposed between said first and second side walls (76, 78) and rotating about an axis perpendicular to the plane of said bracket body portion (24), said roller (7) having a rim (7a) and a median plane generally parallel to the plane of said bracket body portion (24); and

(d) a vertically and rotatably displaceable anti-jump member (9) engageable with the track (100) to prevent said roller (7) from derailing, said anti-jump member (9) comprising a handle (91) adjacent an upper end of said anti-jump member (9), an elongate shaft (93) extending downwardly from said handle (91), and an enlarged track engagement portion (95) at a lower end of said anti-jump member (9), said anti-jump member (9) being disposed with said shaft (93) lying in the median plane of said roller (7) and adjacent said roller rim (7a), said anti-jump member (9) being carried by said roller mounting member (5), for vertical displacement relative to said roller mounting member (5) between a lowered position, wherein said engagement portion (95) can engage and disengage the track (100), and a raised position, wherein said engagement portion (95) is spaced upwardly from said track (100), and for relative displacement in the lowered position;

said roller (7) comprising a wheel (7') having a circular central portion forming said rim (7a) and flanked by two co-axial circular side portions (7b, 7c) of smaller diameter than said central portion

(7a);

said track (100) being formed with two shoulders (204, 206) on either side of a central cavity (208), the two shoulders (204, 206) being situated at the top of the track (100);

the roller (7) running on the track (100) by virtue of the two side portions (7b, 7c) thereof running on the two shoulders (204, 206);

the open top of the central cavity (208) forming a slot, level with the two shoulders (204, 206), and the central cavity (208) widening out below the two, overhanging, shoulders (204, 206);

the central portion of the roller (7) extending through the slot and below the level of the two shoulders (204, 206) into the central cavity (208);

the anti-jump member (9), when lowered, being selectively rotatable to an operative position and to an inoperative position such that, in the operative position of the anti-jump member (9), the shoulders (204, 206) of the track (100) overhang parts of said track engagement portion (95), so that the track engagement portion (95) cannot be withdrawn from the track (100), and such that, in the inoperative position of the anti-jump member (9), the shoulders (204, 206) of the track (100) overhang no part of said track engagement portion (95), so that the track engagement portion (95) can be displaced vertically, to be selectively inserted into or withdrawn from the track (100) through the slot;

the door being able to slide, supported and guided on the track (100) by the roller assembly (1), with the anti-jump member (9) in any of said raised and lowered positions;

the roller assembly (1) being restrained in use from jumping off the track (100) with the anti-jump member (9) lowered and rotated to its operative position.

2. The sliding door assembly of claim 1, and further comprising detent means (89, 94) on said shaft (93) and said roller mounting member (5) for releasably retaining said anti-jump member (9) in said raised position and in said lowered position.

3. The sliding door assembly of claim 1 or 2, wherein said roller mounting member (5), said roller (7) and said anti-jump member (9) are formed from a synthetic resin.

4. The sliding door assembly of claim 4, wherein said roller (7) comprises a wheel (7) and an axle (92), said wheel (7) and said axle (92) being integrally molded.

5. The sliding door assembly of any one of claims 1 to 4, wherein said roller (7) is snap fitted to said roller mounting member (5).

Patentansprüche

1. Schiebetür-Anordnung, die eine Schiebetür, eine Schiene (100) unterhalb der Schiebetür und eine Rollenanordnung (1) aufweist, wobei die Rollenanordnung (1) aufweist:

(a) eine Halterung (3), die an der Tür am oder in der Nähe des Bodens der Tür befestigt ist, wobei die Halterung (3) einen im allgemeinen ebenen Körperabschnitt (24) aufweist;

(b) ein Rollenmontageelement (5), das verschiebbar in der Halterung (3) sitzt, wobei das Rollenmontageelement (5) eine erste und eine zweite Seitenwand (76, 78) aufweist, die sich im allgemeinen parallel zur Ebene des Halterungskörperabschnittes (24) erstrecken;

(c) eine Rolle (7), die drehbar am Rollenmontageelement (5) für ein Bewegen längs der Schiene (100) montiert ist, wobei die Rolle (7) zwischen der ersten und der zweiten Seitenwand (76, 78) angeordnet ist und sich um eine Achse senkrecht zur Ebene des Halterungskörperabschnittes (24) dreht, wobei die Rolle (7) einen Kranz (7a) und eine Mittelebene im allgemeinen parallel zur Ebene des Halterungskörperabschnittes (24) aufweist; und

(d) ein vertikal und drehbar verschiebbares Antisprüngelement (9), das mit der Schiene (100) in Eingriff kommen kann, um zu verhindern, daß die Rolle (7) entgleist, wobei das Antisprüngelement (9) einen Griff (91) angrenzend an ein oberes Ende des Antisprüngelementes (9), eine längliche Welle (93), die sich vom Griff (91) nach unten erstreckt, und einen vergrößerten Schieneneingriffsabschnitt (95) an einem unteren Ende des Antisprüngelementes (9) aufweist, wobei das Antisprüngelement (9) so angeordnet ist, daß die Welle (93) in der Mittelebene der Rolle (7) und angrenzend an den Rollenkranz (7a) liegt, wobei das Antisprüngelement (9) durch das Rollenmontageelement (5) für eine vertikale Verschiebung relativ zum Rollenmontageelement (5) zwischen einer abgesenkten Position, in der der Eingriffsabschnitt (95) mit der Schiene (100) in Eingriff und außer Eingriff kommen kann, und einer erhabenen Position, in der der Eingriffsabschnitt (95) nach oben von der Schiene (100) beabstandet ist, getragen wird, und für eine Rotationsverschiebung in die abgesenkte Position;

wobei die Rolle (7) ein Rad (7') mit einem kreisförmigen mittleren Abschnitt, der den Kranz (7a) bildet, aufweist, und durch zwei koaxiale kreisförmige Seitenabschnitte (7b, 7c) mit kleinerem Durchmesser als der mittlere Abschnitt (7a) flankiert wird;

wobei die Schiene (100) mit zwei Vorsprüngen (204, 206) auf beiden Seiten eines mittleren Hohlraumes (208) ausgebildet ist, wobei die zwei Vorsprünge (204, 206) auf der Oberseite der Schiene (100) liegen;

wobei die Rolle (7) auf der Schiene (100) infolge der zwei Seitenabschnitte (7b, 7c) läuft, die auf den zwei Vorsprüngen (204, 206) laufen;

wobei die offene Oberseite des mittleren Hohlraumes (208) einen Schlitz bildet, niveaugleich mit den zwei Vorsprüngen (204, 206), und wobei sich der mittlere Hohlraum (208) unterhalb der zwei überhängenden Vorsprünge (204, 206) nach außen verbreitert;

wobei sich der mittlere Abschnitt der Rolle (7) durch den Schlitz und unterhalb des Niveaus der zwei Vorsprünge (204, 206) in den mittleren Hohlraum (208) erstreckt;

wobei das Antsprungelement (9), wenn es abgesenkt ist, selektiv in eine arbeitsfähige Position und in eine nicht arbeitsfähige Position drehbar ist, so daß in der arbeitsfähigen Position des Antsprungelementes (9) die Vorsprünge (204, 206) der Schiene (100) über Teile des Schieneneingriffsabschnittes (95) hängen, so daß der Schieneneingriffsabschnitt (95) nicht aus der Schiene (100) herausgezogen werden kann, und so daß in der nicht arbeitsfähigen Position des Antsprungelementes (9) die Vorsprünge (204, 206) der Schiene (100) über keinem Teil des Schieneneingriffsabschnittes (95) hängen, so daß der Schieneneingriffsabschnitt (95) vertikal verschoben werden kann, um selektiv durch den Schlitz in die Schiene (100) eingesetzt oder aus dieser herausgezogen werden kann;

wobei die Tür gleiten kann, wobei sie auf der Schiene (100) durch die Rollenordnung (1) getragen und geführt wird, wobei sich das Antsprungelement (9) in einer von erhabener und abgesenkter Position befindet;

wobei die Rollenordnung (1) bei der Benutzung gegen ein Herauspringen aus der Schiene (100) zurückgehalten wird, wobei das Antsprungelement (9) abgesenkt und in seine arbeitsfähige Position gedreht ist.

2. Schiebetür-Anordnung nach Anspruch 1, die außerdem eine Sperreinrichtung (89, 94) auf der Welle (93) und dem Rollenmontageelement (5) für ein lösbares Halten des Antsprungelementes (9) in der erhabenen Position und in der abgesenkten Position aufweist.

3. Schiebetür-Anordnung nach Anspruch 1 oder 2, bei der das Rollenmontageelement (5), die Rolle (7) und das Antsprungelement (9) aus einem synthetischen Harz hergestellt werden.

4. Schiebetür-Anordnung nach Anspruch 3, bei der

die Rolle (7) ein Rad (7') und eine Achse (92) aufweist, wobei das Rad (7') und die Achse (92) zusammenhängend geformt sind.

5. Schiebetür-Anordnung nach einem der Ansprüche 1 bis 4, bei der die Rolle (7) am Rollenmontageelement (5) eingeschnappt wird.

10 Revendications

1. Assemblage de porte coulissante, comprenant une porte coulissante, une piste (100) au-dessous de la porte coulissante et un assemblage de rouleau (1), ledit assemblage de rouleau (1) comprenant:

(a) une console (3) fixée sur la porte au niveau de la partie inférieure de la porte ou en un point proche de celle-ci, ladite console (3) comportant une partie de corps généralement plane (24);

(b) un élément de montage du rouleau (5) positionné par glissement dans ladite console (3), ledit élément de montage du rouleau (5) comportant des première et deuxième parois latérales (76, 78), s'étendant en général parallèlement au plan de ladite partie de corps de la console (24);

(c) un rouleau (7), monté par rotation sur ledit élément de montage du rouleau (5) en vue d'un déplacement le long de la piste (100), ledit rouleau (7) étant agencé entre lesdites première et deuxième parois latérales (76, 78) et tournant autour d'un axe perpendiculaire au plan de ladite partie de corps de la console (24), ledit rouleau (7) comportant une jante (7a) et un plan médian généralement parallèle au plan de ladite partie de corps de la console (24); et

(d) un élément anti-franchissement pouvant se déplacer verticalement et par rotation (9) pouvant être engagé dans la piste (100), pour empêcher un déraillement dudit rouleau (7), ledit élément anti-franchissement (9) comprenant un manche (91) adjacent à une extrémité supérieure dudit élément anti-franchissement (9), un arbre allongé (93) s'étendant vers le bas à partir dudit manche (91) et une partie d'engagement élargie de la piste (95) au niveau d'une extrémité inférieure dudit élément anti-franchissement (9), ledit élément anti-franchissement (9) étant agencé de sorte que ledit arbre (93) se situe dans le plan médian dudit rouleau (7) de manière à être adjacent à ladite jante du rouleau (7a), ledit élément anti-franchissement (9) étant supporté par ledit élément de montage du rouleau (5), en vue d'un déplacement vertical par rapport audit élément de montage du rouleau (5), entre une position abaissée, dans

laquelle ladite partie d'engagement (95) peut s'engager dans la piste (100) et se dégager de celle-ci, et une position surélevée, dans laquelle ladite partie d'engagement (95) est espacée vers le haut de ladite piste (100), et en vue de l'exécution d'un déplacement par rotation dans la position abaissée;

ledit rouleau (7) comprenant une roue (7') comportant une partie centrale circulaire constituant ladite jante (7a) et flanquée par deux parties latérales circulaires axiales (7b, 7c) ayant un diamètre inférieur à celui de ladite partie centrale (7a);

ladite piste (100) comportant deux épaulements (204, 206) de chaque côté d'une cavité centrale (208), les deux épaulements (204, 206) étant agencés au niveau de la partie supérieure de la piste (100);

le rouleau (7) roulant sur la piste (100), les deux parties latérales correspondantes (7b, 7c) roulant sur les deux épaulements (204, 206);

la partie supérieure ouverte de la cavité centrale (208) formant une fente, située au niveau des deux épaulements (204, 206), la cavité centrale (208) étant élargie vers l'extérieur au-dessous des deux épaulements en porte-à-faux (204, 206);

la partie centrale du rouleau (7) s'étendant à travers la fente et au-dessous du niveau des deux épaulements (204, 206), dans la cavité centrale (208);

l'élément anti-franchissement (9) pouvant, dans sa position abaissée, être tourné sélectivement vers une position opérationnelle et une position inopérionnelle, de sorte que dans la position opérationnelle de l'élément anti-franchissement (9), les épaulements (204, 206) de la piste (100) débordent de certaines parties de ladite partie d'engagement de la piste (95), la partie d'engagement de la piste (95) ne pouvant ainsi pas être retirée de la piste (100), et de sorte que dans la position inopérionnelle de l'élément anti-franchissement (9), les épaulements (204, 206) de la piste (100) ne débordent d'aucune partie de ladite partie d'engagement de la piste (95), la partie d'engagement de la piste (95) pouvant ainsi être déplacée verticalement, en vue d'une insertion sélective dans la piste (100) ou d'un retrait correspondant, à travers la fente;

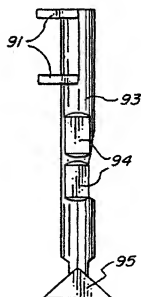
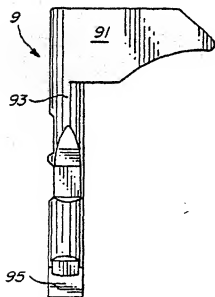
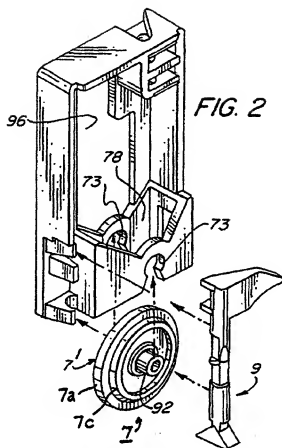
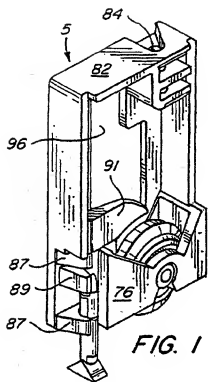
la porte pouvant coulisser, supportée et guidée sur la piste (100) par l'assemblage de rouleau (1), l'élément anti-franchissement (9) pouvant se trouver dans une quelconque desdites positions surélevée et abaissée;

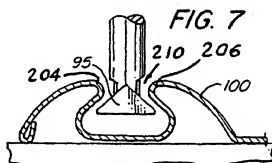
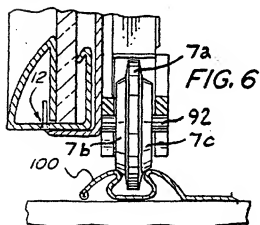
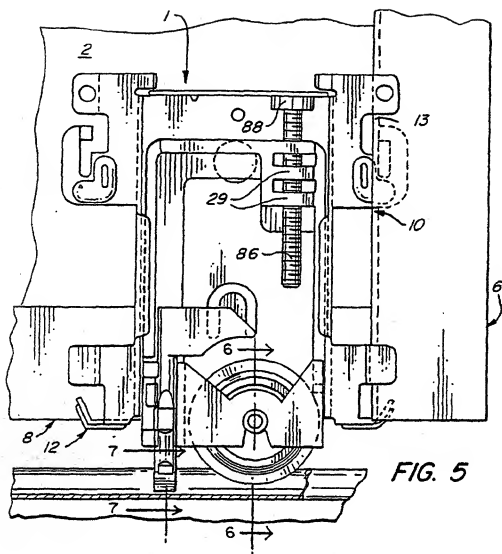
un saut de l'assemblage de rouleau (1) hors de la piste (100) étant empêché, en service, l'élément anti-franchissement (9) étant abaissé et tourné dans sa position opérationnelle.

cation 1, comprenant en outre un moyen d'arrêt (89, 94) sur ledit arbre (93) et ledit élément de montage du rouleau (5), pour retenir de manière amovible ledit élément anti-franchissement (9) dans ladite position surélevée et dans ladite position abaissée.

3. Assemblage de porte coulissante selon les revendications 1 ou 2, dans lequel ledit élément de montage du rouleau (5), ledit rouleau (7) et ledit élément anti-franchissement (9) sont composés d'une résine synthétique.
4. Assemblage de porte coulissante selon la revendication 3, dans lequel ledit rouleau (7) comprend une roue (7') et un essieu (92), ladite roue (7') et ledit essieu (92) étant moulés d'une seule pièce.
5. Assemblage de porte coulissante selon l'une quelconque des revendications 1 à 4, dans lequel ledit rouleau (7) est fixé par encliquetage sur ledit élément de montage du rouleau (5).

2. Assemblage de porte coulissante selon la revendication 1, comprenant en outre un moyen d'arrêt (89, 94) sur ledit arbre (93) et ledit élément de montage du rouleau (5), pour retenir de manière amovible ledit élément anti-franchissement (9) dans ladite position surélevée et dans ladite position abaissée.





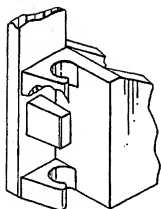


FIG. 8

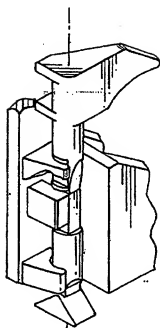


FIG. 9

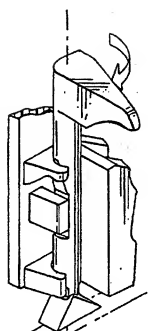


FIG. 10

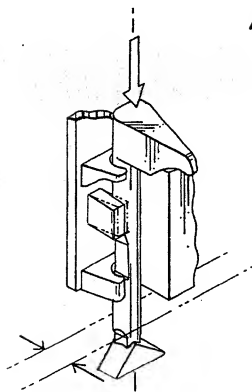


FIG. 11

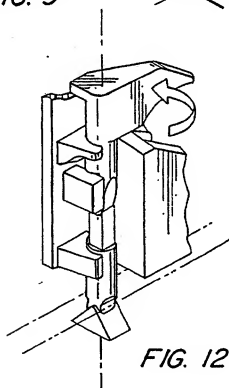


FIG. 12

